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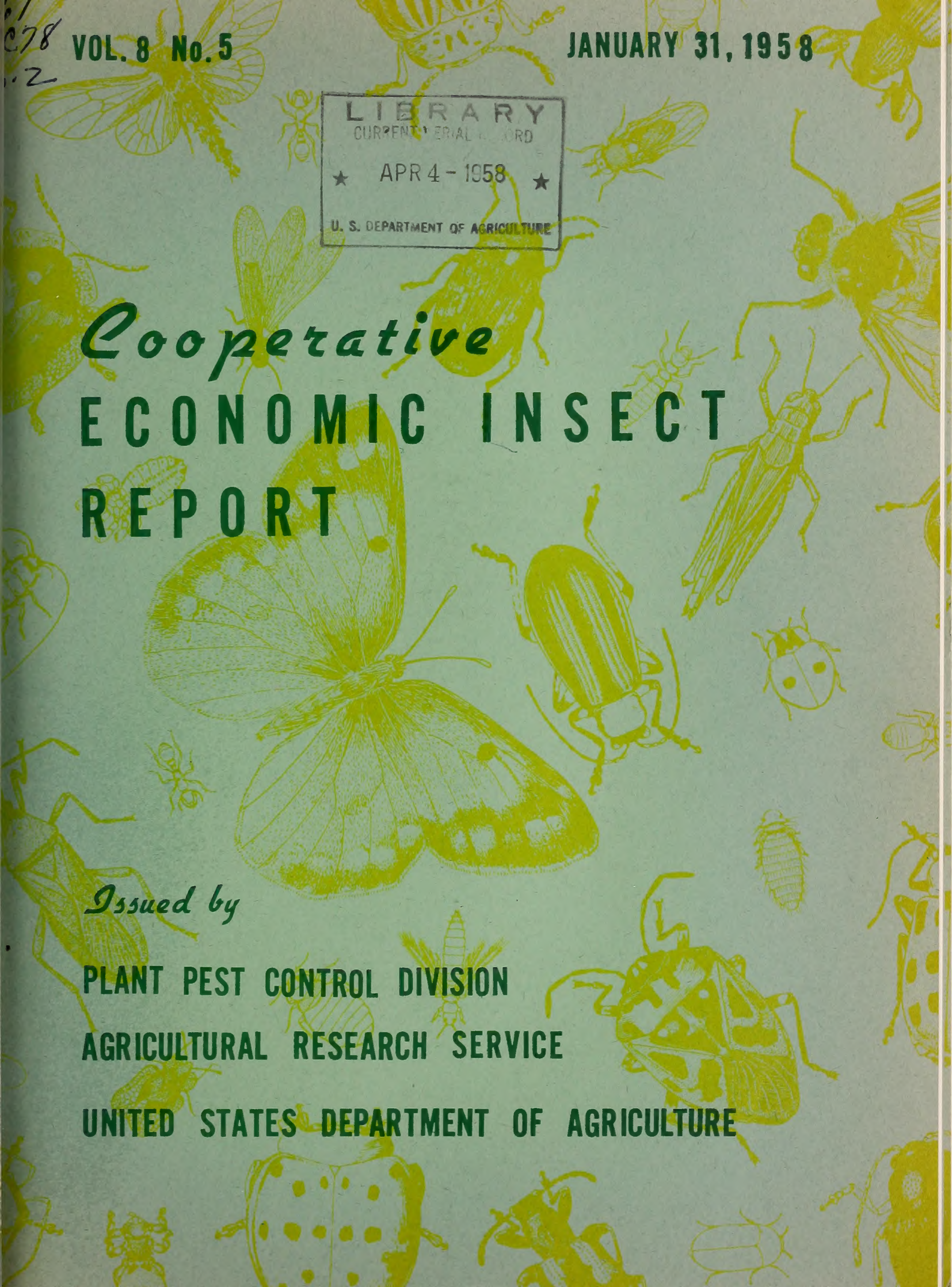

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

PLANT PEST SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Plant Pest Survey Section
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

Volume 8 January 31, 1958 Number 5

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

VEGETABLE WEEVIL active in Riverside County, California and at Baton Rouge, Louisiana. (p. 72).

CATTLE GRUB survey in Kansas and Virginia. (p. 73).

A MITE (Aceria ajugae), apparently new to North America, reported from California. (p. 73).

EUROPEAN CORN BORER caused estimated $158,841,000 loss to grain corn in United States in 1957. (p. 74).

SUMMARY OF INSECT CONDITIONS - 1957 - Nevada (p. 76), Oregon (p. 79), New Mexico (p. 83).

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Reports in this issue are for the week ending January 24 unless otherwise designated.

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WEATHER OF THE WEEK ENDING JANUARY 27, 1958

Two major storm systems produced generous precipitation east of a line joining Green Bay, Wis., and Del Rio, Texas, with additional heavy snow in the mid-continent area and Northeast as temperatures for the week were unseasonably mild in northern portions of the country and abnormally cold in the South.

As the first storm, centered over Arkansas at the end of the previous week, moved northeastward, from $\frac{1}{2}$ to over 1 inch of precipitation fell in Missouri and east of the Mississippi River, except in the Great Lakes region where amounts were lighter. Much of this precipitation was in the form of snow from Missouri to the Great Lakes, and on the 22d depths ranged from 8 to 12 inches in northeastern Kansas, 10 to 15 inches in west-central Missouri and southeastern Iowa, and up to 10 inches in northwestern Illinois and southeastern Wisconsin. This storm also produced 6 inches or more of snow in parts of New York and New England, and left a 1-inch cover over portions of the Ohio Valley.

Weather continued on Page 86.

CEREAL AND FORAGE INSECTS

CHINCH BUG (*Blissus leucopterus*) - OKLAHOMA - Survey completed in seven additional panhandle and northwestern counties showed average number of hibernating bugs per square foot of bunch grass as follows: Kingfisher 246, Dewey 11, Ellis 1, Custer, Beaver, Texas, Cimarron 0. (Coppock).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - OKLAHOMA - Only occasional aphid per alfalfa plant in Logan and Kingfisher Counties. (Coppock).

ALFALFA LOOPER (*Autographa californica*) - CALIFORNIA - Heavy infestation on alfalfa at Redding, Shasta County. (Cal. Coop. Rept.).

FRUIT INSECTS

A TORTRICID (*Amorbia essigana*) - CALIFORNIA - Medium infestation in lemon flowers at Palo Alto, Santa Clara County. Moth normally attacks avocado in southern California. (Cal. Coop. Rept.).

ORANGE TORTRIX (*Argyrotaenia citrana*) - CALIFORNIA - Heavy infestation of larvae in fruit of grapefruit at Carlsbad, San Diego County. (Cal. Coop. Rept.).

SAN JOSE SALE (*Aspidiotus perniciosus*) - CALIFORNIA - Heavy on walnuts in Fresno County. (Cal. Coop. Rept.).

TRUCK CROP INSECTS

TOMATO PINWORM (*Keiferia lycopersicella*) - CALIFORNIA - General throughout San Diego County tomato fields during December. Trouble resulted from faulty control programs. One field had 30 percent crop loss. (Cal. Coop. Rept.).

CABBAGE APHID (*Brevicoryne brassicae*) - GEORGIA - Light infestations on cabbage and turnips in Colquitt, Thomas, Lowndes and Cook Counties. (Johnson).

CUTWORMS - CALIFORNIA - *Peridroma magaritosa* and *Agrotis ypsilon* heavy on asparagus at Newberry, San Bernardino County. (Cal. Coop. Rept.).

VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) - CALIFORNIA - Heavy in dichondra lawn roots at Riverside, Riverside County. (Cal. Coop. Rept.). LOUISIANA - Building up on weeds in East Baton Rouge Parish. (Oliver).

TOBACCO INSECTS

TOBBACO FLEA BEETLE (*Epitrix hirtipennis*) - GEORGIA - Light infestations on tobacco beds in Colquitt and Cook Counties. (Johnson).

STORED-PRODUCT INSECTS

A DERMESTID (*Perimegatoma vespulae*) - CALIFORNIA - Found in stored sacks at Hemet in Riverside County. (Cal. Coop. Rept.).

INSECTS AFFECTING MAN AND ANIMALS

TROPICAL RAT MITE (*Ornithonyssus bacoti*) - GEORGIA - Moderate infestation on guinea pigs in laboratory at Chamblee,De Kalb County. Det. H. G. Scott. (CDC Ent. Mus.).

GERMAN COCKROACH (*Blattella germanica*) - GEORGIA - Heavy infestation in large apartment building Atlanta. Det. H. G. Scott. (CDC Ent. Mus.).

SHEEP SCAB MITE (*Psoroptes equi* v. *ovis*) - VIRGINIA - Found on 761 of 883 sheep inspected during December; 130 head dipped. (Va. Livestock Health Bul. 34 (1))

CATTLE LICE - KANSAS - Only light infestations found on 360 head of cattle at one location in Chase County. Lice infestations were reported increasing and some spraying is being done. (Matthew).

CATTLE GRUBS (*Hypoderma* spp.) - VIRGINIA - Averaged 22 per animal in herd of Augusta County cattle, January 20; 8 per animal in Montgomery County herd, January 7. (Turner). KANSAS - In Chase County, east central area, 360 head of feeder cattle were examined. Of this number, 96.6 percent were infested; average number of grubs per animal was 5.6. (Matthew). Average of 18.6 grubs per animal in ten head examined in Riley County, northeast area. (Knapp).

BROWN DOG TICK (*Rhipicephalus sanguineus*) - DELAWARE - Troublesome in home, northern New Castle County, mid-December. (MacCreary).

YELLOW FEVER MOSQUITO (*Aedes aegypti*) - GEORGIA - Adults in office, De Kalb County. Det. H. D. Pratt. (CDC Ent. Mus.).

MISCELLANEOUS INSECTS

A MITE (*Aceria ajugae*) - CALIFORNIA - The bugle bud mite was reported from bugle weed in Santa Fe Springs, Los Angeles County. This is apparently the first record of this species for North America. Its economic importance is not known. Det. H. H. Keifer. (Cal. Coop. Rept.).

IMPORTED FIRE ANT (*Solenopsis saevissima richteri*) - FLORIDA - Collected in sweep net while sweeping for other insects near Archbold Biological Station, Highlands County. (H. A. Denmark).

CLOVER MITE (*Bryobia praetiosa*) - GEORGIA - Large numbers on walls of 4 institutional homes, De Kalb County. Det. by H. D. Pratt. (CDC Ent. Mus.).

CORRECTIONS

Summary of 1957 Insect Conditions in Delaware, CEIR 7(49):911 - Loss due to European corn borer should be 133,000 bushels, valued at 177,000 dollars. (Milliron).

LIGHT TRAPS

	Prodenia ornithogalli	Agrotis ypsilon	Feltia subterranea	Psuedaletia unipuncta	Trichoplusia ni
SOUTH CAROLINA					
Charleston 1/20-26	1	2	1		
FLORIDA					
Quincy 1/8-14			2	1	
Sanford 1/16		2	2		1
Monticello 1/14			1		

Estimates of Damage by the European Corn Borer to Grain Corn in the United States in 1957

Compiled by Plant Pest Control Division, ARS

The loss of corn grown for grain from damage attributed to the European corn borer (Pyrausta nubilalis) in 1957 is estimated to be nearly 181 million bushels. This is approximately 6 percent of the total national crop estimated at 3,060,480,000 bushels. 1/ The value of the crop lost based on the December price level 2/ is $158,841,000.

Table 1 is a composite of State and Federal estimates. These estimates were prepared by using production data 1/ and prices received 2/ released by the Agricultural Marketing Service. The basis for the loss estimates was determined by the survey of corn borer populations during the fall of 1957. 3/ In most instances the index of 3 percent loss per borer per plant was used to compute the loss in bushels.

Estimated losses caused by the European corn borer in the last nine years are as follows:

1957	180,897,000	bushels	$158,841,000
1956	97,971,000	"	119,535,000
1955	155,355,000	"	182,579,000
1954	191,614,000	"	261,415,000
1953	90,000,000	"	125,466,000
1952	53,270,000	"	77,205,000
1951	35,812,000	"	57,438,000
1950	58,765,000	"	84,912,000
1949	313,819,000	"	349,635,000

1/ Crop Production, 1957 Annual Summary Crop Reporting Board, Agricultural Marketing Service, December 17, 1957.

2/ Agricultural Prices, as of December 15, Crop Reporting Board, Agricultural Marketing Service, December 30, 1957.

3/ Status of the European Corn Borer in 1957. Cooperative Economic Insect Report. Vol. 8, No. 3, pp. 33-42. Loss estimates are only for states shown in Table 1.

Table 1. Estimates of damage by the European corn borer to corn grown for grain in the United States in 1957

State	Districts Included 1/	Total State Production	Estimated data Value per bushel	Value of production	Loss of crop	
	Number	1,000 Bu.	Dollars	1,000 Dol.	1,000 Bu.	$1,000
Connecticut	2	141	1.55	218	2	3
Delaware	1	3,930	1.33	5,227	133	177
Illinois	9	510,592	1.01	515,698	10,976	11,085
Indiana	12	251,812	1.00	251,812	1,498	1,498
Iowa	12	597,316	.85	507,718	102,166	86,840
Kansas	4	36,180	1.03	37,265	1,386	1,428
Maryland	1	11,760	1.35	15,876	244	329
Michigan	3	74,500	1.08	80,460	102	110
Minnesota	6	289,536	.80	231,628	9,110	7,288
Missouri	7	140,492	1.01	141,897	16, 399	16,562
Nebraska	7	215,761	.93	200,657	18,816	17,499
New Jersey	1	2,400	1.38	3,312	64	89
New York	1	12,852	1.26	16,193	21	26
North Dakota	3	14,308	.82	11,732	277	227
Ohio	5	169,884	1.12	190,270	1,295	1,450
Pennsylvania	9	38,594	1.40	54,032	684	958
South Dakota	6	122,199	.72	87,983	16,351	11,773
Vermont	1	50	1.55	77	Trace	1
Virginia	2	16,907	1.39	23,501	177	246
West Virginia	1	5,082	1.37	6,962	61	83
Wisconsin	7	104,036	1.03	107,157	1,135	1,169
Total		2,618,332		2,489,675	180,897	158,841

1/ Status of the European Corn Borer in 1957. Cooperative Economic Insect Report Vol. 8, No. 3, pp. 33-42.

SUMMARY OF INSECT CONDITIONS - 1957

NEVADA

Reported by R. C. Bechtel, H. E. Gallaway and R. W. Lauderdale

Highlights: SPOTTED ALFALFA APHID extended its range to include most alfalfa producing areas in the State. CABBAGE LOOPER infestation of onions in Lyon County were heaviest in recent years. LESSER CLOVER LEAF WEEVIL developed economic populations in Lyon County. SPIDER MITES increased throughout the State. COTTON INSECTS developed heaviest populations yet encountered. MOSQUITOES were much more numerous than in previous years. Other troublesome pests included alfalfa weevil, pea aphid, Lygus bugs, cattle grubs, cattle lice, house and blow flies, horn fly, stable fly, corn earworm and/or cotton bollworm, grasshoppers, Mormon cricket, harvester ants, ticks, codling moth, elm leaf beetle, bark beetles, termites, sheep ked, clover mite and gnats.

Cereal and Forage Insects: ALFALFA WEEVIL (Hypera postica) caused moderate to severe damage in the northern half of the State although populations were below those of 1956. Improved timing of adult control and doubling of the acreage treated decreased a higher potential damage. In many untreated or improperly treated fields damage was very severe. Localized damage greatly retarded second crop alfalfa. Losses are estimated to exceed 37,800 tons valued at approximately $756,000. SPOTTED ALFALFA APHID (Therioaphis maculata) increased rapidly in the southern counties early in the season, then dropped to much lower numbers than in previous years. Heavy infestations developed on second and third crops in Churchill and White Pine Counties. Many populations were decreased to far below the economic level by predators in the southern counties and unknown factors in the central counties. The PARASITES (Praon palitans and Trioxys utilis) were released in various areas in Clark, Churchill and Nye Counties. Only P. palitans was recovered and this was in southern Nye County. SPOTTED ALFALFA APHID extended its range into northern Elko, Eureka, Humboldt, Nye and Washoe Counties and also into Douglas County. Estimated loss exceeded 21,600 tons valued at $432,000. PEA APHID (Macrosiphum pisi) caused losses of alfalfa hay and reduced seed production in many areas. Populations deviated from normal and remained high the entire season. LYGUS BUGS (Lygus spp.) were very abundant on alfalfa and other crops in many areas. Losses occurred in seed fields where control was omitted, delayed or improper, and an undetermined amount of damage was done to forage fields. WESTERN HARVESTER ANT (Pogonomyrmex occidentalis) was the major pest of rangelands. Many ranges which formerly supported large numbers of livestock now support only a small percentage of these. GRASSHOPPER populations were mostly non-economic and little or no control was directed toward Melanoplus spp. CLEAR-WINGED GRASSHOPPER (Camnula pellucida) required control in northeastern Nevada, however. The 1956 adult grasshopper survey revealed an exceptionally heavy buildup of this species in this region. This population increase constituted a serious threat to federal reseeding projects in the area as well as to native vegetation and other crops. As a result, approximately 20,600 acres were treated in the Deeth-Wells, Thousand Springs and Red House areas of Elko County at a cost of $14,100. Good to excellent control resulted. MORMON CRICKET (Anabrus simplex) required control on a total of 22,800 acres in the Selenite Range, Pershing County and Cherry Creek Mountain, White Pine County at a cost of $21,150. Pest control surveys showed excellent control results. CORN EARWORM (Heliothis zea) again caused moderate to heavy damage to field corn. This was especially true in the southern counties. ALFALFA CATERPILLAR (Colias philodice eurytheme) populations were lower than in the past three years. Losses to this insect were at a minimum. LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) damaged clover in Lyon County. SAY STINK BUG (Chlorochroa sayi) caused local injury to grain and alfalfa seed crops. WHITE-LINED SPHINX (Celerio lineata) larvae caused light damage to grain in western Humboldt County.

ENGLISH GRAIN APHID (*Macrosiphum granarium*) failed to develop economic populations except in southern Pershing County. CORN LEAF APHID (*Rhopalosiphum maidis*) was present on barley in the west central part of the State. No economic damage was noticed.SUNFLOWER MOTH(*Homoeosoma electellum*) caused moderate to heavy damage in Clark and Pershing Counties. A WHITE GRUB (*Aphodius hamatus garmani*) continued to damage native pasture grasses in Elko County. The damage was less than that of 1956. LEAFHOPPERS of various species were present on many crops, but the amount of damage done has not been estimated.

Fruit Insects: SPIDER MITES (*Tetranychus* spp.) were heavier than in previous years. Damage due to these pests was severe since many growers did not treat for them. CODLING MOTH (*Carpocapsa pomonella*) damage was held to a minimum on sprayed trees, but was usually 100 percent on unsprayed trees. PEAR-SLUG (*Caliroa cerasi*) again caused serious damage to pear and cherry trees. GREEN PEACH APHID (*Myzus persicae*) damaged peach and plum trees in the western part of the State. PEAR LEAF BLISTER MITE (*Eriophyes pyri*) developed moderate infestations in Douglas County. BLACK-MARGINED APHID (*Monellia costalis*) heavily infested pecans in Clark County.

Truck Crop Insects: BEET LEAFHOPPER (*Circulifer tenellus*) populations were light and averaged about 0.5 leafhoppers per square foot in southern Nevada. Curly top incidence also remained low. Fall beet leafhopper movements were heavier and earlier than in previous years and averaged about 2.0 per square foot of beet row. Host plants for overwintering populations were more numerous. Some control measures have already been started in an attempt to reduce these populations. Population readings in Churchill County were non-economic and averaged 0.02 leafhoppers per square foot of beet row. POTATO TUBERWORM (*Gnorimoschema operculella*) has become established in the field in the Panaca area, Lincoln County. MELON APHID (*Aphis gossypii*) populations were heavy, and caused damage to squash and cantaloups. SQUASH BUG (*Anasa tristis*) damaged melons, including watermelons, in the southern counties. Some growers reported poor control with sabadilla. TOMATO FRUITWORM (*Heliothis zea*) caused moderate damage to tomatoes in localized areas. WIREWORMS (species unknown) destroyed 30 acres of corn in Churchill County. ONION THRIPS (*Thrips tabaci*) were present in normal but economic numbers. Control measures reduced the populations to non-economic levels. ONION MAGGOT (*Hylemya antiqua*) populations were below normal. No economic damage resulted. BLACK CUTWORM (*Agrotis ypsilon*) and CABBAGE LOOPER (*Trichoplusia ni*) caused light to moderate damage to onions in Lyon and Washoe Counties. LEAFHOPPERS were present on various crops and caused damage in localized areas.

Cotton Insects: SPIDER MITE (*Tetranychus* spp.) increases were greater than those of any other cotton pests. Approximately twice as much acreage was treated as in 1956. BOLLWORM (*Heliothis* spp.) numbers were up over previous years. Control measures kept damage at a minimum. COTTON APHID (*Aphis gossypii*), LYGUS BUGS (*Lygus* spp.) and THRIPS (*Frankliniella* spp.) populations were up slightly over previous years. Damage was held to a low percentage with control measures. PINK BOLLWORM (*Pectinophora gossypiella*) and BOLL WEEVIL (*Anthonomus grandis*) surveys were negative.

Forest, Ornamental and Shade Tree Insects: ELM LEAF BEETLE (*Galerucella xanthomelaena*) again severely damaged elms in parts of Churchill, Douglas, Lyon, Ormsby, Pershing and Washoe Counties. Damage was almost 100 percent on untreated trees and was also heavy on improperly treated ones. EUROPEAN ELM SCALE (*Gossyparia spuria*) remained a severe pest on untreated elms. Populations were effectively controlled on trees which were sprayed for elm leaf beetle. MOUNTAIN PINE BEETLE (*Dendroctonus monticolae*), RED TURPENTINE BEETLE (*D. valens*) and WESTERN PINE BEETLE (*D. brevicomis*) heavily damaged spotted areas of ponderosa pine on approximately 4,000 acres in the Crystal Bay area, Lake Tahoe. JEFFREY PINE BEETLE (*D. jeffreyi*) infested and killed Jeffrey pine trees in southwestern Washoe County. A BLACK PINE LEAF SCALE caused serious injury to pinon pine in Clark County. SPIDER MITES (*Tetranychus* spp.) were more numerous than in previous years and caused severe damage to ornamental plants and shade trees. APHIDS of various genera and species caused considerable damage in 1957. MOURNING-CLOAK BUTTERFLY (*Nymphalis antiopa*) severely damaged willows and cottonwoods in various areas in the northern half of the State. VIRGINIA-CREEPER LEAFHOPPER (*Erythroneura ziczac*) caused defoliation or severe injury to most Virginia creepers in western Nevada.

Insects Affecting Man and Animals: MOSQUITOES (*Aedes* spp. and *Culex* spp.) again increased to greater populations than in previous years. In certain areas there were meetings to discuss the formation of abatement districts. CATTLE GRUBS, CATTLE LICE, HORN FLY (*Siphona irritans*), STABLE FLY (*Stomoxys calcitrans*) and SHEEP KED (*Melanophagus ovinus*) caused extensive but normal damage over the State. HOUSE FLY (*Musca domestica*) caused slightly more than normal annoyance to both livestock and man. HORSE FLIES and DEER FLIES were very numerous, especially in western and northern Nevada. TICKS (*Dermacentor* spp.) were numerous, especially in the northern counties. GNATS were much more numerous than usual, especially in southern Clark County. TERMITES (*Reticulitermes* sp.) again increased in western and southern Nevada. In certain localities they caused serious damage. CLOVER MITE (*Bryobia praetiosa*) was a serious pest of households in the northern and western areas. The areas in which this pest was reported are increasing. ANTS, CARPET BEETLES, YELLOW JACKETS, COCKROACHES, EUROPEAN EARWIG (*Forficula auricularia*) and BOXELDER BUG (*Leptocoris trivittatus*) were also common household pests.

Stored Products Insects: GRANARY WEEVIL (*Sitophilus granarius*), SAW-TOOTHED GRAIN BEETLE (*Oryzaephilus surinamensis*), CONFUSED FLOUR BEETLE (*Tribolium confusum*), YELLOW MEALWORM (*Tenebrio molitor*), INDIAN-MEAL MOTH (*Plodia interpunctella*) and MEDITERRANEAN FLOUR MOTH (*Anagasta kuhniella*) were present in normal numbers in homes and granaries. A DERMESTID (*Trogoderma parabile*) infested grains, cereals, and other products in Clark, Elko, Pershing and Washoe Counties. No economic damage resulted. KHAPRA BEETLE (*T. granarium*) survey was negative.

Beneficial Insects: DAMSEL BUGS, LACEWINGS, LADY BEETLES, MINUTE PIRATE BUGS, and SYRPHID FLIES helped to reduce or retard many potential economic aphid populations. A SPOTTED ALFALFA APHID PARASITE (*Praon palitans*) became established in the field in Nye County. Native bee pollinators such as *Nomia melanderi melanderi*, *Anthophora* spp., *Bombus* spp. *Megachile* spp., *Melissodes* spp. and *Osmia* spp. were observed and collected in various alfalfa and clover seed fields.

SUMMARY OF INSECT CONDITIONS - 1957

OREGON

Reported by Joseph Capizzi

Highlights: HESSIAN FLY outbreak in the Willamette Valley was the most serious in 30 years. Infestations of the RASPBERRY CANE MAGGOT, were estimated from 10-30 times above those in 1956. WHEAT STEM MAGGOTS were more abundant in Jefferson, Deschutes, Yamhill, Union and Malheur Counties than in the past 6 or 7 years. BIRCH LEAF MINER, a new State record, severely damaged 20-30,000 young nursery seedlings near Portland. ONION MAGGOT continued in unusually high populations in Malheur County. A PIT-MAKING SCALE heavily damaged white oak in several locations in the Willamette Valley. APHID vectors of a yellow dwarf virus outbreak in the Willamette Valley were especially numerous in grain fields. ORIENTAL FRUIT MOTH: Total of 177 moths collected at or adjacent to known infestations at Salem and Portland. SYMPHYLID problems increased statewide on vegetable, field, and specialty crops. NITIDULIDS have gradually built up to serious numbers over the past five years. Red clover seed fields are especially subject to attack.

Cereal and Forage Insects: ALFALFA WEEVIL (*Hypera postica*) populations fell far below those in 1956. Adults became active in April. In June and July, average counts were 5 larvae and 1 adult per 10 sweeps. Only fields suffering heavy damage the previous year were treated in Malheur and Klamath Counties. PEA APHID (*Macrosiphum pisi*) did not build up in eastern Oregon counties but unusually high counts were taken in Umatilla County on alfalfa (10-20 per sweep in July). Vetch and field peas suffered moderate damage by aphids at mid-summer in the Willamette Valley. Adults of A NITIDULID (*Meligethes nigrescens*) appeared on April 11 in Polk County. By July 20 migration was underway to red clover and bean fields and control was necessitated. Populations were considered the highest in five years through the central Willamette Valley north to Multnomah County. CLOVER APHID (*Anuraphis bakeri*) was more numerous in Malheur County in red clover than in 1956. LYGUS BUGS (*Lygus* spp.) were present in damaging numbers in most seed-growing areas of the State. Umatilla County alfalfa growers experienced damaging populations throughout most of the growing season. Bloom damage resulted in reduced seed yield at Umapine. Lygus built up by mid-summer in Malheur and southern Oregon counties. July 20 counts ran as high as 250 nymphs and adults per 10 sweeps in Josephine and Jackson Counties. OMNIVOROUS LEAF TIER (*Cnephasia longana*) was much less a threat than in 1956. By May 6, the larvae were mining the leaves of vetch in the Willamette Valley. Favorable weather conditions are thought responsible for a reduction in damage. A GRASS STEM MINER (probably *Phytomyza nigra*) appeared in large numbers in wheat, bentgrass, and fescue in Marion County during early May, the heaviest infestation of this type since 1952. WHEAT STEM MAGGOTS (*Meromyza pratorum* and *M. saltatrix*) were more abundant than for several years. Damage was reported to bluegrass in Union County May 18, wheat and barley fields were attacked in the Ontario-Nyssa area in July and scattered infestations in spring wheat were common in Jefferson, Deschutes, and several Willamette Valley counties. The most serious outbreak of the HESSIAN FLY (*Phytophaga destructor*) in 30 years occurred in the Willamette Valley in 1957. Conservative estimate of damage has been placed at one-half million dollars. Spring wheat plantings were hardest hit, some fields having 50 or more percent of the plants damaged. Surveys in July showed moderate to heavy damage from Marion to Washington Counties. Flies emerged from "flaxseeds" as rains began about October 8. A cereal yellow dwarf virus was common in small grains throughout the Willamette Valley this year. A survey of grain aphids uncovered several species known to transmit this virus. Among these were *Macrosiphum granarium*, *M. dirhodum* and *Rhopalosiphum maidis*. PEA LEAF WEEVIL (*Sitona lineata*) continues to extend its range southward, invading northern Benton County in 1957. Economic infestations occurred in red clover, alfalfa, trefoil seed fields, and legumes in irrigated pastures in Polk and Yamhill Counties. Weevil activity declined in mid-August. An outbreak of A CUTWORM (Heliothis phloxiphaga) damaged wheat fields in Sherman and Wasco Counties but a virus disease cut larval populations sharply to avert more serious injury. GRASSHOPPER control on a private basis was carried out on 7,697 acres in 16 counties. The estimated loss state-wide as a result of grasshopper damage was $80,000. The estimated state-wide savings in crop on range as a result of control work was $71,500. A cooperative U.S.D.A.-rancher control program of the MORMON CRICKET (Anabrus simplex) was undertaken in Gilliam County June 10. Approximately 2,085 acres were baited by air near Blalock.

Fruit Insects: CODLING MOTH (Carpocapsa pomonella) - First adults found April 29 at Salem, May 4 at Milton-Freewater and May 13 at Hood River. Scattered light infestation occurred in the Willamette Valley. Elsewhere, this insect was adequately controlled with the exception of one 10-acre block of apples in Jackson County that suffered nearly 100 percent apple damage by August. During 1957, infestations of the PEAR PSYLLA (Psylla pyricola) were heavier than normal, primarily because of poor weather conditions for spray application. Adults were abundant and oviposition noted by February 18 at Medford, fourth-instar nymphs were present April 19, and adults appeared April 30. In Hood River, several orchards not treated with dormant sprays wre heavily infested by June 16. PEACH TWIG BORER (Anarsia lineatella) was damaging in the State wherever controls were omitted. In Milton-Freewater, 10 percent of the growth of prunes in one orchard was affected. Larvae were abundant and causing flagging in apricot and peach orchards at The Dalles May 4. A GEOMETRID (Operophtera occidentalis) continues to cause severe defoliation of fruit trees in and around Portland; noticeable during April. APPLE AND THORN SKELETONIZER (Anthophila pariana) continued on a gradual increase in the Willamette Valley, particularly in unsprayed orchards and backyard apple trees. FALL WEBWORM (Hyphantria cunea) has also been on the increase in the past three years. Adults emerged May 21 in Marion County. Walnuts are a preferred host but a prune orchard atDundee was reported infested during August. A TENTIFORM LEAF MINER (Lithocolletis sp.) heavily infested several apple blocks in Jackson County. Large numbers of adults, and egg laying noted April 30. Pupating of first-generation larvae began May 27. WESTERN CHERRY FRUIT FLY (Rhagoletis cingulata indifferens) was adequately controlled in commercial orchards. First official record of the fly in Malheur County was established in July. ORIENTAL FRUIT MOTH (Grapholitha molesta) trapping on a large scale continued throughout the State. A total of 177 moths were collected from or adjacent to known-infested orchards or single trees in Portland and Salem areas. SAN JOSE SCALE (Aspidiotus perniciosus) continues on the increase especially in Jackson County. Speed spray equipment and careless application is considered the cause of this increase. In The Dalles area, there were spotty heavy infestations of the GREEN PEACH APHID (Myzus persicae) but populations were normal in other areas. PEAR THRIPS (Taeniothrips inconsequens) were more abundant than in 1956. Peak emergence was reached March 24-30. By mid-season infestations were normal except for some severe damage at Forest Grove. BLACK CHERRY APHID (Myzus cerasi) continued troublesome in the Willamette Valley and in Jackson County. Control was necessary to check serious damage in Union County. APPLE APHID (Aphis pomi) was abundant in the Willamette Valley, Hood River, and Milton-Freewater. The MEALY PLUM APHID (Hyalopterus arundinis) caused damage to new growth of prunes and plums at Milton-Freewater in May. PEAR LEAF BLISTER MITE (Eriophyes pyri) built up heavy infestations over most of the fruit-growing areas of the State. Unfavorable weather for spraying and lack of spray programs accounts for much of the damage. The PEACH SILVER MITE (Vasates cornutus) was above normal in numbers in Jackson County and eastern Oregon during 1957. The EUROPEAN RED MITE (Panonychus ulmi) was increasingly in evidence, hatching April 11 in Jackson County and April 28 at Hood River, where foliage damage was general. TWO-SPOTTED SPIDER MITE (Tetranychus telarius) was very abundant in most orchards in Jackson County. Heavier than normal populations existed in the Willamette Valley and were above normal at Hood River and The Dalles. The YELLOW SPIDER MITE (Eotetranychus carpini), along with T. telarius, remain the two most important mite pests of pears in Jackson County and difficulty in control is being experienced. FILBERTWORM (Melissopus latiferreanus) - First adults emerged in

Lane County July 5. Infestations were general and in most cases heavy because of inconsistent control practices. Infested nuts ran as high as 30 percent in some orchards. A FILBERT LEAF ROLLER (*Archips rosana*) caused considerable damage to foliage in Linn, Lane and Benton Counties but were only moderate in numbers north of Linn County. A FILBERT APHID (*Myzocallis coryli*) built up to economic populations in Willamette Valley orchards by mid-April, dropped off during a period of hot dry weather in August and then, built up in late summer. Predators, primarily lady beetles and lacewings aided in controlling late season populations. The RASPBERRY CANE MAGGOT (*Pegomya rubivora*) caused significant damage to caneberries in all areas where they are grown in the Willamette Valley, especially in Clackamas, Polk and Yamhill Counties. The OBLIQUE-BANDED LEAF ROLLER (*Archips rosaceana*) was reported on several occasions as infesting caneberry plantings in the central Willamette Valley. One instance of larvae found in crates of raspberries at Gresham during July was of particular concern.

Truck Crop Insects: WESTERN SPOTTED CUCUMBER BEETLE (*Diabrotica undecimpunctata*) continues to be one of the most formidable pests of vegetable crops in the Willamette Valley, particularly on beans and corn. Damage was general and often serious. ONION MAGGOT (*Hylemya antiqua*) caused severe losses in Malheur County - estimated at 10-15 percent of the crop, valued at 1 1/2 million dollars. Western Oregon's onion crop did not receive an unusual amount of injury during 1957. SEED-CORN MAGGOT (*Hylemya cilicrura*) was injurious to young bean plantings in Washington and Yamhill Counties in early May. An unusual attack of COLLEMBOLA (undetermined species) necessitated the replanting of 25 acres of table beets at Independence May 28. ASPARAGUS BEETLES (*Crioceris asparagi* and *C. duodecimpunctata*) caused economic damage to two 25-acre plantings near Salem on April 22 and May 9 respectively. CABBAGE SEED-POD WEEVIL (*Ceutorhynchus assimilis*) was extremely abundant in Marion County seed fields in late April. PEA APHID (*Macrosiphum pisi*) populations built up early on freezing varieties of peas in Washington and Marion Counties in May. Fungus and braconid parasites aided in controlling these high numbers. *Lygus* spp. presented season-long problems in beets and mint at Milton-Freewater and Hermiston. Over 50 percent of the plantings received one or more control treatments. Lygus on beets and potatoes in Malheur County were also high. Predators, especially lady beetles and lacewings, built up in late summer on these crops. A survey of BEET LEAFHOPPER (*Circulifer tenellus*) overwintering adults in Umatilla County wasteland areas during March indicated a high population potential. In May, as first brood leafhoppers developed and migration to the beet fields began, unusually high numbers of leafhoppers were observed. Linear foot samples of leafhopppers in beet fields near Hermiston averaged 5-11 nymphs and 3-7 adults in late May. Considerable virus was reported as the season progressed, particularly in late-planted beet fields. COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) populations took a downward trend following an extremely serious outbreak in 1956. First larvae appeared in Malheur County June 2. Approximately 20 percent of acreage in the county was treated for control. BEAN APHIDS were more plentiful than normal, with most fields in the Willamette Valley requiring control during July. GARDEN SYMPHYLID (*Scutigerella immaculata*), probably the most serious pest of vegeables in Oregon, caused considerable damage to strawberries, corn, beans, mint and other crops. A total of 650 acres of asparagus was destroyed in Polk County by symphylids. CUTWORMS were generally not present in such high numbers as in 1956. Species causing damage to truck crops in Oregon in 1957 were *Peridroma margaritosa* to table beets in Lane County, *Autographa* sp. to peas in Washington, Marion and Clackamas during June and, *Autographa californica* feeding on sugar beet foliage and requiring control in Malheur County in June. Estimates of cutworm damage received from 5 representative counties totaled $82,000 and savings resulting from cutworm control at $393,000

Specialty Crops: CRANBERRY GIRDLER (*Crambus topiarius*), BLACK VINE WEEVIL (*Brachyrhinus sulcatus*), and the BLACK-HEADED FIREWORM (*Rhopobota naevana*) caused general damage to cranberry-growing areas in Coos, Curry and Clatsop Counties. Injury usually resulted from failure to follow recommended control practices. A TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) infestation on 70 acres of mint near Hermiston in August caused an estimated 35 percent reduction in yield. Several mint fields in Linn and Marion Counties suffered damage by a cutworm (*Autographa* sp.). Nearly mature larvae suddenly succumbed to a virus infection at the height of the infestation June 28.

Forest, Ornamental and Shade Tree Insects: A PIT-MAKING SCALE (*Asterolecanium minus*) has devitalized and killed white oak trees at several locations in the Willamette Valley. GARDEN SYMPHYLIDS killed or stunted a 5-acre nursery planting of maple seedlings at Gresham. The PEAR LEAF-ROLLING MIDGE (*Dasyneura pyri*) rolled nearly 100 percent of the leaves in a 2-acre nursery planting at Gresham. SOD WEBWORM (unidentified) damage to lawns was reported from many areas. Umatilla County agents observed some lawns completely destroyed and others requiring control measures. ELM LEAF BEETLE (*Galerucella xanthomelaena*) was more abundant than normal. Many trees in the Salem area were completely skeletonized. The BIRCH LEAF MINER (*Fenusa pusilla*) and the ALDER LEAF MINER (*F. dohrni*) were discovered infesting nursery stock in the East Portland-Gresham area during July. These are new pest records for the State. The BIRCH LEAF MINER caused severe injury to 25-30 thousand seedling trees. The SPRUCE APHID (*Aphis abietina*) extensively damaged Sitka spruce stands at Newport and Gold Beach. This injury was particularly noticeable during June and July. PINE BUTTERFLIES (*Neophasia menapia*) though not causing observable damage, were extremely abundant in the Cascade Mountains from eastern Clackamas County south to the Willamette Pass. Several reports were received of these butterflies flying above Douglas-fir tree tops in September and October. After three successive years of decline, forest insect outbreaks increased from 930,640 acres infested in 1956, to 1,480,640 acres infested in 1957. The BALSAM WOOLLY APHID (*Chermes piceae*) increased in infestation by 233,000 acres, mostly in subalpine fir stands in the Willamette National Forest. SPRUCE BUDWORM (*Choristoneura fumiferana*) infestations, on the decline for two years, increased by 294,840 acres, centered in the central and southwestern Blue Mountains and the Wallowa Mountains. Infestations of the WESTERN PINE BEETLE (*D. brevicomis*) were up 25,120 acres to 39,040 acres and the SPRUCE BUD MOTH (*Zeiraphera ratzeburgiana*) of minor importance in 1956, was up to 46,560 acres of infestation in 1957. This infestation is located primarily on the Siuslaw National Forest. Other major forest pests, except mountain pine beetle and Engelmann spruce beetle, are present in static or declining infestations.

Beneficial Insects: CONVERGENT LADY BEETLES (*Hippodamia convergens*) were present in very large numbers in Medford pear orchards in April. Another LADY BEETLE (*Stethorus punctum*) effectively controlled mite populations building up on caneberries in Linn and Marion Counties about mid-season. Nabids, lacewings and lady beetles were very abundant in Malheur County alfalfa and potato fields, perhaps contributing to the year's comparatively low aphid population. AN ALKALI BEE (*Nomia melanderi*) reached peak emergence in Malheur County July 14-20. Umatilla County peak emergence was reached July 5. Efforts are being made to enlarge and create nesting sites for these bees in eastern Oregon where they are an effective natural pollinator of seed crops. NEMESTRINID FLY parasitism of a general grasshopper infestation in Grant County was low (5-10 percent) during 1956, but a large sarcophagid (possibly *Sarcophaga kellyi*) was extremely abundant and grasshoppers showed reduced egg development during July. A GORSE WEEVIL (*Apion ulicis*), introduced at two sites in Coos County to aid in the control of gorse, were checked during September. These weevils are multiplying but have not moved an appreciable distance from release areas. From mid-May in the Willamette Valley to July in Wallowa and Umatilla Counties, the GOATWEED BEETLES (*Chrysolina* sp.) were showing good weed control. HONEY BEE (*Apis mellifera*) diseases took an upward trend during 1957.

	1956	1957
American Foulbrood - - - - colonies infected - - -	225	434
European Foulbrood - - - - colonies infected - - -	108	162
Apiaries inspected	958	912
Apiaries infected	94	152

Man and Household Pests: The VARIED CARPET BEETLE (Anthrenus verbasci) and the BLACK CARPET BEETLE (Attagenus piceus) have been reported damaging household fabrics in increasing numbers. TERMITES, especially Reticulitermes hesperus, are a serious problem in most areas of the State. Judging from the number of inquiries received, CARPENTER ANTS (Camponotus sp.) are widespread and destructive in Oregon. ROACHES continue to be a major household pest and, though not the most prevalent species, the BROWN-BANDED ROACH (Supella supellectilium) is appearing at widely scattered locations in the State. FIREBRATS and the SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) are among the most common household pests in Oregon. INDIAN-MEAL MOTH (Plodia interpunctella) has shown up frequently in homes where nuts are stored. CLOVER MITE (Bryobia praetiosa), a GRASS BUG (Arhyssus sp.) and a WEEVIL (Trachyphloeus bifoveolatus) commonly invade Oregon homes.

Stored-Product Pests: No KHAPRA BEETLES have been found. Dermestids collected in stored grain establishments were predominantly in the genera Anthrenus and Attagenus. The LESSER GRAIN BORER (Rhyzopertha dominica) was found at additional locations in the Willamette Valley. Many other common species of stored-grain pests were observed during the khapra beetle survey. Western Oregon generally had the greater number of infestations due to climatic conditions favorable for insect development.

SUMMARY OF INSECT CONDITIONS - 1957

NEW MEXICO

Reported by John J. Durkin

Highlights: Cotton suffered more from insect attack than any other crop. COWPEA APHID started damaging cotton as soon as it germinated. The aphids reduced stands and slowed down the young cotton seedlings by causing extensive damage to the terminal buds. LYGUS BUGS caused heavy square drop during the early fruiting period. BOLLWORMS moved into cotton in early July to begin one of the worst bollworm outbreaks most farmers had ever experienced. COTTON LEAFWORM also broke all previous records by causing heavy damage in all cotton-growing areas. SPIDER MITES and COTTON APHIDS were heavy in several areas. Before severe rain, hail and snow storms struck just before and during harvest it was estimated that insects destroyed approximately 180,000 bales of cotton. Costs of control and cotton losses to insect damage amounted to about $14 million. Fruit growers suffered moderate to heavy losses from CODLING MOTH damage. A long, drawn-out spring caused codling moth emergence to span a long period of time and following generations over-lapped to give a continuous peak of codling moth activity which made control very difficult. MCDANIEL MITES caused extensive damage to trees in many areas. And a LEAF ROLLER, as yet unidentified, caused extensive damage to the fruit just prior to and during harvest in the Albuquerque area. SPOTTED ALFALFA APHID was generally light with only spotty heavy outbreaks centered mostly in the Pecos River Valley around Carlsbad and Roswell. Damage and cost of control is estimated at about one-third of last year's loss or about $1 million. Spotted alfalfa aphid parasites were released and Praon palitans was established in several fields in Dona Ana and Luna Counties.

GRASSHOPPERS on range and crop lands did not develop to the extent that they have in previous years. The fall adult survey indicates that only ½ million acres will be infested in 1958 compared with 2½ million acres in 1957. Approximately 120,000 acres of rangeland were sprayed in 1957 compared with 671,617 acres in 1956. AN APHID (Asiphonella dactylonii) was collected from Bermuda grass in Las Cruces. This was the first record of this aphid in North America. BEET WEBWORM was extremely numerous on rangeland and in some towns. It caused very little damage to vegetation but was a nuisance around homes. The adults were also a nuisance for several nights in many towns in central and southern New Mexico. The common black CALOSOMA was also very numerous and was quite a nuisance on brightly-lighted streets and business establishments in many cities in the southern half of the State.

Cereal and Forage Insects: SPOTTED ALFALFA APHID (Therioaphis maculata) was generally light with scattered heavy infestations in Eddy and Chaves Counties. Most activity was confined to May, June, and July. Fall infestations were very light with only occasional fields needing treatment. PEA APHIDS (Macrosiphum pisi) in alfalfa were general but light during early spring. LYGUS BUGS (Lygus elisus and L. hesperus) were medium to very heavy in alfalfa during the summer in the southern half of the State. Alfalfa seed yields were very low as a result of lygus bug damage. ARMYWORM (Pseudaletia unipuncta) and VARIEGATED CUTWORM (Peridroma margaritosa) were heavy but spotty in alfalfa in the Las Cruces area. ARMY CUTWORM (Chorizagrotis auxiliaris) was heavy on alfalfa in Mora County. THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) was very heavy in spotty infestations in alfalfa in Dona Ana, Luna, Grant and Eddy Counties. A GRASS MITE (Oligonychus stickneyi) caused damage to corn in Dona Ana and Torrance Counties. SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) caused heavy damage to corn in Quay, Curry, Roosevelt, and Luna Counties. Infestations were light but general in sorghum. They also damaged popcorn and broomcorn in some areas. CORN EARWORM (Heliothis zea) was heavy in popcorn and field corn throughout the State. Many fields averaged 85 to 90 percent loss. FALL ARMYWORM (Laphygma frugiperda) was light and spotty in corn and sorghum in most areas. GREENBUG (Toxoptera graminum) was generally light on small grains with spotty medium to heavy infestations in Dona Ana, Catron, Quay, and Eddy Counties. SAY STINK BUG (Chlorochroa sayi) was heavy in many fields of wheat and barley in several counties. CORN LEAF APHIDS (Rhopalosiphum maidis) were light to heavy on heads of sorghum in Lea County and on field corn and broomcorn in Quay and Curry Counties. A FALSE CHINCH BUG (Nysius raphanus) was very heavy on sorghum heads in Roosevelt, Curry, and Chaves Counties. Damage was light to medium.

Rangeland Pests: HARVESTER ANTS (Pogonomyrmex barbatus fuscatus and P. occidentalis) were extremely numerous and caused severe damage to range land in many areas throughout the State. GRASSHOPPERS were a problem on approximately 500,000 acres of rangeland. A WEEVIL (Ophryastes vittatus) damaged range grass in a small area of Harding County.

Fruit Insects: CODLING MOTHS (Carpocapsa pomonella) caused heavy, spotty damage in Lincoln, Rio Arriba, Santa Fe, San Juan, Chaves, Grant, Sandoval, and Bernalillo Counties. Emergence of the first brood was prolonged by an unusually long, cool spring and the second and third broods emerged continuously from mid-July until early September. One orchard in Grant County had 75 percent of the apples damaged. In many other areas damage varied from 5 to 35 percent. ORCHARD MITES (Tetranychus mcdanieli and Bryobia praetiosa) caused light to heavy damage depending on control measures. Heaviest infestations were in Lincoln, Rio Arriba, Santa Fe, Chaves, and San Juan Counties. WOOLLY APPLE APHIDS (Eriosoma lanigerum) were generally light with spotty heavy infestations in Rio Arriba, Lincoln, and Santa Fe Counties. SAN JOSE SCALE (Aspidiotus perniciosus) increased greatly and caused moderate to heavy damage to fruit in apple orchards in Rio Arriba and Santa Fe Counties. FRUIT TREE LEAF ROLLER (Archips argyrospila) was light to medium in unsprayed orchards early in the season in Taos, Rio Arriba and Santa Fe Counties. TENT CATERPILLARS (Malacosoma sp.) were also a problem in unsprayed orchards. SHOT-HOLE BORER (Scolytus rugulosus) adults caused moderate damage to apple trees in one orchard in Santa Fe County by attacking the axillary buds on the twigs. GRAPE LEAFHOPPERS (Erythroneura sp.) caused heavy damage to grapes in home gardens and untreated vineyards in Dona Ana, Eddy, Chaves and Bernalillo Counties. WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) was light with a few heavy infestations on home plantings in Dona Ana County. BLACK MARGINED APHID (Monellia costalis) and BLACK PECAN APHID (Melanocallis caryaefoliae) were medium to heavy on pecans in the spring in Dona Ana and Eddy Counties. Adult of A BUPRESTID (Psiloptera drummondi) damaged pecan terminals in Dona Ana County.

Truck Crop Insects: TOMATO FRUITWORM (Heliothis zea) was heavy on tomatoes in Dona Ana, Luna, and Lea Counties. TOMATO HORNWORM (Protoparce quinquemaculata) caused light to heavy damage to tomatoes in Dona Ana, Luna, and Lea Counties depending on control measures. COWPEA APHID (Aphis medicaginis) was heavy on seedling tomatoes and chile in Dona Ana County. CABBAGE LOOPER (Trichoplusia ni) caused heavy damage to spring lettuce in Eddy, Dona Ana and Valencia Counties. Fall lettuce was also damaged but most growers were able to keep the pest under control. ONION THRIPS (Thrips tabaci) were medium to heavy on onions in Dona Ana County. Most growers used controls. MEXICAN BEAN BEETLE (Epilachna varivestis) was heavy on beans in Torrance County, as much as 50 percent of the crop was destroyed.

Cotton Insects: SEED-CORN MAGGOT (Hylemya cilicrura) caused severe loss of stands in spotty infestations in Dona Ana, Lea and Eddy Counties. COWPEA APHID (Aphis medicaginis) was heavy and caused damage in many fields in Dona Ana, Hidalgo, Luna, and Eddy Counties. THRIPS (Thrips tabaci and Frankliniella sp.) were generally light with medium to heavy infestations in Dona Ana, Eddy, and Luna Counties. TWO-SPOTTED SPIDER MITE (Tetranychus telarius) and DESERT SPIDER MITE (T. desertorum) were light to heavy but very spotty throughout the cotton growing areas. LYGUS BUGS (Lygus elisus and L. hesperus) and COTTON FLEAHOPPER (Psallus seriatus) caused extensive damage to cotton throughout most of the early fruiting period. BOLLWORM (Heliothis spp.) infestations were generally medium to heavy in all cotton-growing areas. The first damaging infestations appeared about a week earlier than normal and many growers failed to get insecticides applied in time to prevent heavy damage. COTTON LEAFWORM (Alabama argillacea) invaded cotton throughout the State two to three weeks earlier than usual. Many areas, where leafworms are seldom, if ever, a problem, were severely damaged. COTTON SQUARE BORER (Strymon melinus) was light and spotty in Dona Ana and Lea Counties. PINK BOLLWORM (Pectinophora gossypiella) attacked cotton in most cotton-growing areas. All infestations were light and only detected by lint cleaner inspections with the exception of those in southern Dona Ana County. Approximately 200 acres of cotton in this county were slightly to severely damaged. Infestations were spotty and widely scattered.

Ornamental and Shade Tree Insects: CALIFORNIA PRIONUS (Prionus californicus) was abundant in willows and Chinese elms in the southern half of the State. Larvae of HORNET MOTH (Aegeria apiformis) damaged many young poplars in Eddy County. BARK BEETLES (Ips confusus and Pityophthorus sp.) damaged pinon pines in Santa Fe County. A BUPRESTID (Psiloptera drummondi) adults damaged pecan trees in ornamental plantings in Dona Ana County by clipping off terminal growth. A BAGWORM (Oiketicus townsendi) was heavy on ornamental juniper, elm, ash, locust and willow in Chaves and Curry Counties. FALL WEBWORM (Hyphantria cunea) attacked pecans, poplars, elms and other ornamental trees in spots over the State. COWPEA APHID was heavy on many ornamental shrubs and trees. AN APHID (Cinara winonkae) was light to medium on most arborvitae during the spring. ROSE APHID (Macrosiphum rosae) was heavy on roses throughout the State during the early spring. A WOOLLY APHID (Eriosoma crataegi) was heavy on pyracantha in Las Cruces. ELM LEAF APHID (Myzocallis ulmifolii) was heavy on American elms in early summer. Larvae of SUNFLOWER MOTH (Homoeosoma electellum) damaged calendula, shasta daisy, marigold, and chrysanthemums in Las Cruces. A NITIDULID (Conotelus mexicanus) damaged roses and chrysanthemums in many areas of the State. APHIDS (numerous species) were light to heavy on most annual flowers. AN APHID (Asiphonella dactylonii) heavily infested four Bermuda grass lawns in spots in Las Cruces but damage was light. A larva of A BILLBUG (Calendra phoeniciensis) damaged Bermuda grass lawns in Dona Ana County. A WEBWORM (Acrolophus sp.) damaged one Bermuda grass lawn in Las Cruces. WHITE GRUBS (Phyllophaga spp.) damaged lawns in Albuquerque and other cities. A MITE (Oligonychus pratensis group) damaged many Bermuda grass lawns in Las Cruces. MITES (Tetranychus telarius, T. cinnabarinus, T. desertorum and T. canadensis) damaged ornamentals in the southern and central areas of the State.

Insects Affecting Man and Animals: HORN FLY (*Siphona irritans*) was extremely numerous throughout the State on range cattle. Infestations on dairy and feed lot cattle were light to medium depending on controls. HOUSE FLY (*Musca domestica*) was a problem throughout the summer around dairies, poultry houses and in cities. Fly populations in Las Vegas were serious, which is unusual. SCREW-WORM (*Callitroga hominivorax*) was severe on sheep and cattle in San Miguel and Santa Rosa Counties. Infestations on cattle in Chaves and Lincoln Counties were light but persistent. CATTLE LICE (*Bovicola bovis* and *Haematopinus eurysternus*) were prevalent on cattle during the cool months. CATTLE GRUBS (*Hypoderma lineatum* and *H. bovis*) infested cattle throughout the State. SHEEP BOT FLY (*Oestrus ovis*) infested an estimated 90 percent of the sheep in New Mexico. SHEEP KED (*Melophagus ovinus*) infested most sheep in the State. Infestations ranged from light to heavy depending on control. BROWN DOG TICK (*Rhipicephalus sanguineus*) was a problem on dogs and in homes in several areas. EAR TICK (*Otobius megnini*) was reported on dogs in several areas. A BLOOD-SUCKING CONENOSE BUG (*Triatoma* sp.) was reported attacking people in several towns throughout the State. FALSE CHINCH BUGS (*Nysius* spp.) were a nuisance in Rio Arriba, Chaves, and Curry Counties. CLOVER MITE (*Bryobia praetiosa*) was a nuisance around homes. Infestations were spotty throughout the State. A GROUND BEETLE (*Calosoma semilaeve*) was a nuisance around motels and other business establishments in the southern half. Larvae and adults of BEET WEBWORM (*Loxostege sticticalis*) were a nuisance in several towns throughout the State. ORIENTAL COCKROACH (*Blatta orientalis*), BROWN-BANDED ROACH (*Supella supellectilium*), and GERMAN ROACH (*Blattella germanica*) infested many homes and stores throughout the State.

Stored-Product Insects: HIDE BEETLES (*Dermestes maculatus* and *D. caninus*) infested and severely damaged sheep hides in Las Vegas. One KHAPRA BEETLE (*Trogodema granarium*) was found in a farm-ranch storage building in Roosevelt County. The property was fumigated. SAW-TOOTHED GRAIN BEETLE (*Oryzaephilus surinamensis*), CADELLE (*Tenebroides mauritanicus*), CONFUSED FLOUR BEETLE (*Tribolium confusum*), RICE WEEVIL (*Sitophilus oryza*) and GRAIN MITE (*Acarus siro*) were among the most common insects found in stored grain in the State.

Miscellaneous Insects: WHITE-LINED SPHINX (*Celerio lineata*) larvae were very numerous on rangeland and on highways in scattered areas throughout the State.

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Weather continued

A second storm moving out of the northern Gulf of Mexico on the 24th, and reaching southeastern Virginia on the 25th and southern New England on the 26th where it remained at the end of the week, produced from 1 to over 2 inches of rain along both the Gulf and Atlantic Coasts and somewhat lighter amounts in other areas east of the Mississippi. As this storm moved across Georgia on the 24th a tornado occurred at Cochran, injuring 12 persons and causing property losses preliminarily estimated at $300 thousand. Snow and sleet fell as far south as northern portions of Louisiana and Mississippi.

Rainfall for January already totals 8.68 inches at Boston, Mass., the greatest January total there in 122 years. Several points in southern Florida also reported their wettest January on record.

Precipitation was again light in the western Great Plains, and although moisture conditions are generally good there, more would be beneficial in scattered sections.

West of the Continental Divide, measurable precipitation in virtually all areas during the closing days of the period provided needed soil moisture in parts of southern California and in Nevada, and increased mountain snow depths. In the Pacific States, abnormally warm weather for the past 3 weeks has stimulated early growth of many plants, thus making them more vulnerable to a sudden freeze. (Summary Supplied by U. S. Weather Bureau).